

PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Appl. No. : 09/617,318 Confirmation No. : 9061
Applicants : David N. Roundhill, Michalakis Averkiou, Jeffry E. Powers
Filed : July 17, 2000 Attorney Docket No.: 500789.01
Art Unit : 3737 Customer No. : 27,076
Examiner : John Fernando Ramirez
Title : SYSTEM AND METHOD FOR THREE-DIMENSIONAL HARMONIC
ULTRASOUND IMAGING

Mail Stop Amendment
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

RESPONSE TO OFFICE COMMUNICATION

Sir:

The Examiner indicated in the Office Communication dated August 13, 2010 (the "Office Communication"), that the Request By Applicant for Interference With a Patent, filed December 30, 2000, fails to comply with 37 CFR 41.202(a). Note that Applicants did not file a communication on December 30, 2000 as indicated by the Examiner. It will be assumed that the Examiner meant to refer to the Request By Applicant for Interference with a Patent filed on July 17, 2000 (the "Request").

As discussed in a telephone conference with Examiner Ramirez on September 10, 2010, the Request was in compliance with the applicable rules at the time it was filed on July 17, 2000, and consequently, the objection to the Request should be withdrawn.

The Request was submitted under 37 C.F.R. 1.607, the rule in effect on July 17, 2000 for requesting interference with a patent. Attached for the Examiner's review is a copy of M.P.E.P. 2307, 7th Edition, Revision No. 1 (July 1998) and 8th Edition (August 2001), both of which contain the text of 37 C.F.R. 1.607 "*Request By Applicant for Interference with a Patent*". Section 1.607 outlines the requirements for requesting an interference that were in effect at the

time the Request was filed on July 17, 2000. As can be seen in the attached copies of 37 C.F.R. 1.607 and the Request, Applicants fully complied with the applicable rules in their submission.

In the Office Communication, the Examiner indicated that the Request had been filed pursuant to 37 C.F.R. 41.202(a) and asserts deficiencies in the Request. Applicants note that 37 C.F.R. 41.202(a) was added in September 2004, more than four years after the subject Request was filed. In other words, 37 C.F.R. 41.202(a) was not in effect at the time the Request was filed. It is unreasonable and unfair to object to the Request for failing to comply with rules that did not exist until four years after the filing of the Request. Applicants therefore request that the objections to the Request set forth in the Office Communication be withdrawn and that processing of the requested interference proceed accordingly.

Applicants have made a good faith effort to be responsive to the Office Communication by presenting arguments as to why the Request is not deficient. Examiner Ramirez acknowledged during the telephone conference that providing an explanation of the reasons for the sufficiency of the Request would be responsive to the Office Communication. If, however, the Examiner maintains the deficiency of the Request, Applicants request a one-month time period to correct any deficiencies.

Applicants believe that no fees are due with this response. Should any fees be required, the Commissioner is hereby authorized to charge any such fees required by this submission to Deposit Account No. 50-1266.

Respectfully submitted,

DORSEY & WHITNEY LLP

/Kimton N. Eng/

September 13, 2010

Date

Kimton N. Eng
Registration No. 43,605
Telephone No. (206) 903-8800

KNE:pep

Enclosures:

Copy of M.P.E.P. 2307, 7th Edition, Revision No. 1

Copy of M.P.E.P. 2307, 8th Edition

Copy of Request by Applicant for Interference with a Patent filed July 17, 2000

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should take steps to initiate an interference between the application and the patent.

If the application contains at least one allowable claim drawn to the same patentable invention as at least one patent claim, the examiner may initiate the interference by proceeding as described in MPEP § 2309.

If the application discloses, but does not claim, an invention claimed in the patent, the examiner should suggest a claim or claims to the applicant (see MPEP § 2305), and include a statement that failure of the applicant to make the claim or claims will be taken as a concession that the subject matter of the claim or claims is the prior invention of another. Form Paragraphs 23.09 and 23.10 should be used for this purpose.

¶ 23.09 Requirement To Copy Patent Claim

The following claim number [1] from U.S. Patent No. [2] is suggested to applicant under 35 U.S.C. 135(a) for the purposes of an interference:

[3]

The suggested claim must be copied exactly, although other claims may be proposed under 37 CFR 1.605(a).

Applicant is given ONE MONTH or THIRTY DAYS, whichever is longer, from the mailing date of this communication to copy this patent claim. Failure to do so will be considered a concession that the subject matter of this claim is the prior invention of another under 35 U.S.C. 102(g), and thus also prior art under 35 U.S.C. 103(a) (*In re Oguie*, 517 F.2d 1382, 186 USPQ 227 (CCPA 1975)), but will **not** result in the abandonment of this application. **THE PROVISIONS OF 37 CFR 1.136 DO NOT APPLY TO THE TIME SPECIFIED IN THIS ACTION.**

Examiner Note:

1. In bracket 1, insert the number from the patent of the suggested claim.
2. In bracket 2, insert the number of the patent.
3. In bracket 3, insert a copy of the patent claim.
4. Only one claim from the patent should be suggested for interference unless other claims to a separate patentably distinct invention are claimed in the patent and can be made by the applicant. To suggest an additional claim, form paragraph 23.10 should follow this paragraph.
5. If the Office action addresses other issues, such as a rejection of other claims, form paragraph 23.07 should be included at the end of the Office action.

¶ 23.10 Copying Additional Patent Claims for a Distinct Invention

Claim number [1] from U.S. Patent No. [2] is suggested under 35 U.S.C. 135(a) in addition to claim [3] of the patent, suggested above. The inventions defined by these patent claims are considered to be "separate patentable inventions" under 37 CFR 1.601(n) which could form the basis for plural counts in an interference.

The suggested claim, reproduced below, must be copied exactly, although other claims may be proposed under 37 CFR 1.605(a).

[4]

Applicant is given ONE MONTH or THIRTY DAYS, whichever is longer, from the mailing date of this communication to copy this additional patent claim. Failure to do so will be considered a concession that the subject matter of this claim is the prior invention of another under 35 U.S.C. 102(g), and thus also prior art under 35 U.S.C. 103(a) (*In re Oguie*, 517 F.2d 1382, 186 USPQ 227 (CCPA 1975)). **THE PROVISIONS OF 37 CFR 1.136 DO NOT APPLY TO THE TIME SPECIFIED IN THIS ACTION.**

Examiner Note:

1. In bracket 1, insert the number of the patent claim that is patentably distinct from the claim specified in form paragraph 23.09.
2. This paragraph must follow form paragraph 23.09 and should only be used in those rare instances where both the patent and the application claim distinct, interfering inventions.

2307 Applicant Requests Interference With a Patent

37 CFR 1.607. Request by applicant for interference with patent.

(a) An applicant may seek to have an interference declared between an application and an unexpired patent by,

- (1) Identifying the patent,
- (2) Presenting a proposed count,
- (3) Identifying at least one claim in the patent corresponding to the proposed count,

(4) Presenting at least one claim corresponding to the proposed count or identifying at least one claim already pending in its application that corresponds to the proposed count, and, if any claim of the patent or application identified as corresponding to the proposed count does not correspond exactly to the proposed count, explaining why each such claim corresponds to the proposed count, and

- (5) Applying the terms of any application claim,
 - (i) Identified as corresponding to the count, and
 - (ii) Not previously in the application to the disclosure of the application.

(6) Explaining how the requirements of 35 U.S.C. 135(b) are met, if the claim presented or identified under paragraph (a)(4) of this section was not present in the application until more than one year after the issue date of the patent.

(b) When an applicant seeks an interference with a patent, examination of the application, including any appeal to the Board, shall be conducted with special dispatch within the Patent and Trademark Office. The examiner shall determine whether there is interfering subject matter claimed in the application and the patent which is patentable to the applicant subject to a judgment in an interference. If the examiner determines that there is any interfering subject matter, an interference will be declared. If the examiner determines that there is no interfering subject matter, the examiner shall state the reasons why an interference is not being declared and otherwise act on the application.

(c) When an applicant presents a claim which corresponds exactly or substantially to a claim of a patent, the applicant shall identify the patent and the number of the patent claim, unless the claim is presented in response to a suggestion by the examiner. The examiner shall notify the Commissioner of any instance where an applicant fails to identify the patent.

(d) A notice that an applicant is seeking to provoke an interference with a patent will be placed in the file of the patent and a copy of the notice will be sent to the patentee. The identity of the applicant will not be disclosed unless an interference is declared. If a final decision is made not to declare an interference, a notice to that effect will be placed in the patent file and will be sent to the patentee.

If the applicant does not apply the terms of the claim presented to the disclosure of the application, i.e., does not state how each term of the copied claim is supported by the specification, as required by 37 CFR 1.607(a)(5), a one-month time period should be set for correction of this deficiency. Form Paragraph 23.12 should be used for this purpose.

tion. In order to avoid the issuance of two patents to the same patentable invention, the examiner should take steps to propose an interference between the application and the patent.

If the application contains at least one allowable claim drawn to the same patentable invention as at least one patent claim, the examiner may propose the interference by proceeding as described in MPEP § 2309.

If the application discloses, but does not claim, an invention claimed in the patent, the examiner should suggest a claim or claims to the applicant (see MPEP § 2305), and include a statement that failure of the applicant to make the claim or claims will be taken as a concession that the subject matter of the claim or claims is the prior invention of another. Form Paragraphs 23.09 and 23.10 should be used for this purpose.

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Applicant is given ONE MONTH or THIRTY DAYS, whichever is longer, from the mailing date of this communication to copy this patent claim. Failure to do so will be considered a concession that the subject matter of this claim is the prior invention of another under 35 U.S.C. 102(g), and thus also prior art under 35 U.S.C. 103(a) (*In re Oguie*, 517 F.2d 1382, 186 USPQ 227 (CCPA 1975)), but will not result in the abandonment of this application. THE PROVISIONS OF 37 CFR 1.136 DO NOT APPLY TO THE TIME SPECIFIED IN THIS ACTION.

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¶ 23.10 Copying Additional Patent Claims for a Distinct Invention

Claim number [1] from U.S. Patent No. [2] is suggested under 35 U.S.C. 135(a) in addition to claim [3] of the patent, suggested above. The inventions defined by these patent claims are consid-

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The suggested claim, reproduced below, must be copied exactly, although other claims may be proposed under 37 CFR 1.605(a).

[4]

Applicant is given ONE MONTH or THIRTY DAYS, whichever is longer, from the mailing date of this communication to copy this additional patent claim. Failure to do so will be considered a concession that the subject matter of this claim is the prior invention of another under 35 U.S.C. 102(g), and thus also prior art under 35 U.S.C. 103(a) (*In re Oguie*, 517 F.2d 1382, 186 USPQ 227 (CCPA 1975)). THE PROVISIONS OF 37 CFR 1.136 DO NOT APPLY TO THE TIME SPECIFIED IN THIS ACTION.

Examiner Note:

1. In bracket 1, insert the number of the patent claim that is patentably distinct from the claim specified in form paragraph 23.09.
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2307 Applicant Requests Interference With a Patent

37 CFR 1.607. Request by applicant for interference with patent.

(a) An applicant may seek to have an interference declared between an application and an unexpired patent by,

- (1) Identifying the patent,
- (2) Presenting a proposed count,
- (3) Identifying at least one claim in the patent corresponding to the proposed count,
- (4) Presenting at least one claim corresponding to the proposed count or identifying at least one claim already pending in its application that corresponds to the proposed count, and, if any claim of the patent or application identified as corresponding to the proposed count does not correspond exactly to the proposed count, explaining why each such claim corresponds to the proposed count, and
- (5) Applying the terms of any application claim,
 - (i) Identified as corresponding to the count, and
 - (ii) Not previously in the application to the disclosure of the application.

(6) Explaining how the requirements of 35 U.S.C. 135(b) are met, if the claim presented or identified under paragraph (a)(4) of this section was not present in the application until more than one year after the issue date of the patent.

(b) When an applicant seeks an interference with a patent, examination of the application, including any appeal to the Board, shall be conducted with special dispatch within the Patent and Trademark Office. The examiner shall determine whether there is interfering subject matter claimed in the application and the patent which is patentable to the applicant subject to a judgment in an interference. If the examiner determines that there is any interfering subject matter, an interference will be declared. If the exam-

iner determines that there is no interfering subject matter, the examiner shall state the reasons why an interference is not being declared and otherwise act on the application.

(c) When an applicant presents a claim which corresponds exactly or substantially to a claim of a patent, the applicant shall identify the patent and the number of the patent claim, unless the claim is presented in response to a suggestion by the examiner. The examiner shall notify the Commissioner of any instance where an applicant fails to identify the patent.

(d) A notice that an applicant is seeking to provoke an interference with a patent will be placed in the file of the patent and a copy of the notice will be sent to the patentee. The identity of the applicant will not be disclosed unless an interference is declared. If a final decision is made not to declare an interference, a notice to that effect will be placed in the patent file and will be sent to the patentee.

If the applicant does not apply the terms of the claim presented to the disclosure of the application, i.e., does not state how each term of the copied claim is supported by the specification, as required by 37 CFR 1.607(a)(5), a one-month time period should be set for correction of this deficiency. Form Paragraph 23.12 should be used for this purpose.

COMPLIANCE WITH 35 U.S.C. 135(b)

If the claim presented or identified as corresponding to the proposed count was added to the application by an amendment filed more than one year after issuance of the patent, or the application was not filed until more than one year after issuance of the patent (but the patent is not a statutory bar), then under the provisions of 35 U.S.C. 135(b), an interference will not be declared unless at least one of the claims which were in the application, or in a parent application, prior to expiration of the one-year period was for “substantially the same subject matter” as at least one of the claims of the patent. Therefore, 37 CFR 1.607(a)(6) requires that the request for interference with the patent include an explanation of how the requirements of 35 U.S.C. 135(b) are met. If this explanation is not provided, a one-month time period should be set for correction of this deficiency.

Further, if the patent issued from an application which was published under 35 U.S.C. 122(b), note the one year from publication date limitation found in 35 U.S.C. 135(b)(2) with respect to applications filed after the date of publication.

The explanation under 37 CFR 1.607(a)(6) must be considered by the examiner to determine whether the “substantially the same subject matter” requirement of

35 U.S.C. 135(b) has been met. In order for an application claim to be for “substantially the same subject matter” as a patent claim, it must contain all the material limitations of the patent claim. *Parks v. Fine*, 773 F.2d 1577, 227 USPQ 432 (Fed. Cir. 1985), *modified*, 783 F.2d 1036, 228 USPQ 677 (1986). See also *Corbett v. Chisholm*, 568 F.2d 759, 196 USPQ 337 (CCPA 1977); *In re Sitz*, 331 F.2d 617, 141 USPQ 505 (CCPA 1964); *Stalego v. Heymes*, 263 F.2d 334, 120 USPQ 473 (CCPA 1959); *Rieser v. Williams*, 255 F.2d 419, 118 USPQ 96 (CCPA 1958); *Emerson v. Beach*, 215 F.2d 290, 103 USPQ 45 (CCPA 1955); *In re Tanke*, 213 F.2d 551, 102 USPQ 93 (CCPA 1954); *Andrews v. Wickenden*, 194 F.2d 729, 93 USPQ 27 (CCPA 1952); *In re Frey*, 182 F.2d 184, 86 USPQ 99 (CCPA 1950); *Thompson v. Hamilton*, 152 F.2d 994, 68 USPQ 161 (CCPA 1946). The fact that the application claim may be broad enough to cover the patent claim is not sufficient. *In re Frey*, 182 F.2d 184, 86 USPQ 99 (CCPA 1950).

If none of the claims which were present in the application, or in a parent application, prior to expiration of the one-year period meets the “substantially for the same subject matter” test, the claims presented or identified as corresponding to the proposed count should be rejected under 35 U.S.C. 135(b). *In re McGrew*, 120 F.3d 1236, 43 USPQ2d 1632 (Fed. Cir. 1997).

Note that the expression “prior to one year from the date on which the patent was granted” in 35 U.S.C. 135(b) includes the one-year anniversary date of the issuance of a patent. *Switzer v. Sockman*, 333 F.2d 935, 142 USPQ 226 (CCPA 1964).

SPECIAL DISPATCH

Examiners should note that 37 CFR 1.607 requires that examination of an application in which applicant seeks an interference with a patent “shall be conducted with special dispatch.”

See MPEP § 708.01.

Form paragraph 23.12 may be used to notify applicant of the failure to specifically apply each limitation of each of the copied claims to the disclosure of the application.

¶ 23.12 *Failure To Apply Terms of Proposed Claim to the Disclosure*

Claim [1] of this application has been copied from U.S. Patent No. [2] for the purpose of an interference.

COPY

PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Present Application:

Applicants : ROUNDHILL, David N. et al.
Attorney Docket No.: 500789.01
Filed : Concurrently herewith
Title : ULTRASOUND HARMONIC IMAGING SYSTEM AND METHOD

Prior Application:

Examiner : F. Jaworski
Art Unit : 3737
Serial No. : 08/943,546

REQUEST BY APPLICANT FOR INTERFERENCE WITH A PATENT

Box Patent Application
Assistant Commissioner of Patents
Washington, D.C. 20231

Sir:

Applicant hereby requests an interference with a patent. Pursuant to 37 C.F.R. § 1.607, the patent is identified as U. S. Patent No. 5,928,151, and the proposed counts are as follows:

Count 1. A method for producing a three dimensional reconstruction with an ultrasound system, the method comprising the steps of:

(a) transmitting ultrasonic energy at a first frequency band into a subject during said imaging session, said subject being free of added ultrasound contrast agent throughout the entire imaging session;

(b) receiving ultrasonic echo information associated with said transmitted ultrasonic energy;

(c) filtering from said echo information a plurality of information signals associated with a second frequency band, said second frequency band comprising at least a harmonic band of said first frequency band; and

(d) forming the three-dimensional reconstruction in response to said information signals.

Count 2. An ultrasound apparatus adapted for generating a three dimensional reconstruction of a subject during an imaging session, said subject being free of added ultrasound contrast agent throughout the entire imaging session, said apparatus comprising:

a transducer;

a transmit beamformer operatively connected to said transducer for transmitting ultrasonic energy into a subject during said imaging session, said subject being free of added ultrasound contrast agent throughout the entire imaging session;

a receive beamformer operatively connected to said transducer and configured to obtain echo information;

a filter operatively connected to said receive beamformer and operative to filter from said echo information a plurality of information signals associated with a harmonic frequency band, said harmonic frequency band comprising harmonics of a fundamental frequency band transmitted into the subject; and

wherein the three-dimensional reconstruction is responsive to said information signals.

Count 3. A method for producing a three dimensional reconstruction with an ultrasound system, the method comprising the steps of:

(a) transmitting ultrasonic energy at a first frequency band into a subject during said imaging session, said subject being free of added ultrasound contrast agent throughout the entire imaging session;

(b) receiving ultrasonic echo information associated with said transmitted ultrasonic energy;

(c) obtaining from said echo information a plurality of detected Doppler information signals associated with a second frequency band, said second frequency band comprising at least a harmonic band of said first frequency band;

(d) forming the three-dimensional reconstruction in response to said information signals; and

(e) displaying a Doppler image selected from the group of: velocity, variance, energy and combinations thereof, the Doppler image being responsive to said three dimensional reconstruction.

Count 4. A method for producing a three dimensional reconstruction with an ultrasound system, the method comprising the steps of:

(a) transmitting ultrasonic energy at a first frequency band into a subject during said imaging session, said subject being free of added ultrasound contrast agent throughout the entire imaging session, said ultrasonic energy characterized by a peak power level near said first frequency band;

(b) receiving ultrasonic echo information associated with said transmitted ultrasonic energy;

(c) obtaining from said echo information a plurality of information signals associated with a second frequency band, said second frequency band comprising at least a harmonic band of said first frequency band, and a second plurality of information signals associated with said first frequency band;

(d) forming the three-dimensional reconstruction in response to said information signals; and

(e) displaying a composite image responsive to said three dimensional reconstruction and representing three dimensions, said composite image comprising spatially distinct near-field and far-field regions, said far-field region emphasizing information signals in the first frequency band and said near-field region emphasizing information signals in the second frequency band.

Count 5. A method for producing a three dimensional reconstruction with an ultrasound system, the method comprising the steps of:

(a) transmitting ultrasonic energy at a first frequency band into a subject during said imaging session, said subject being free of added ultrasound contrast agent throughout the entire imaging session;

(b) receiving ultrasonic echo information associated with said transmitted ultrasonic energy;

(c) obtaining from said echo information a first plurality of information signals associated with said first frequency band and a second plurality of information signals

associated with a second frequency band, said second frequency band comprising at least a harmonic band of said first frequency band;

(d) compounding the first and second plurality of information signals; and

(e) forming the three-dimensional reconstruction as a function of said compounded information signals.

The claims of the patent corresponding to the proposed counts are as follows:

COUNT	PATENT CLAIM	APPLICATION CLAIM
Count 1	1	102
Count 2	73	103
Count 3	90	104
Count 4	91	105
Count 5	96	106

The terms of application claims 102-106 may be applied to the disclosure of the application as follows:

Count 1

Transmitting ultrasonic energy at a first frequency band into a subject and receiving ultrasonic echo information associated with the transmitted ultrasonic energy is described throughout the specification, including on page 6, lines 3-5. Generating harmonic ultrasound images without the use of a contrast agent, which is known as tissue imaging, is described on page 1, line 33 through page 2, line 7 and on page 6, line 33 through page 7, line 12, among other places. The filtering of information signals associated with a second frequency band, *i.e.*, the harmonic band, is described in the portions of the specification relating to the digital filter 118 of Figure 1 and in the portion of the specification relating to Figures 14 and Figure 10. Forming a three-dimensional reconstruction from the information signals is described on page 9, line 22 through page 10, line 3 and reflected in Figure 1 by the inclusion of 3D Image Rendering Unit 162, a 3D Image Memory 164 and a Video Processor 140 that processes the 3D video data.

Count 2

An ultrasound apparatus adapted for generating a three dimensional reconstruction of a subject during an imaging session is referenced on page 9, line 22 through page 10, line 3 and reflected in Figure 1 by the inclusion of 3D Image Rendering Unit 162, a

3D Image Memory 164 and a Video Processor 140 that processes the 3D video data. Ultrasound imaging without the use of contrast agents, known as tissue imaging, is described on page 1, line 33 through page 2, and line 7 and on page 6, line 33 through page 7, line 12, among other places. A transducer 110 is shown in Figure 1, and a transmit frequency control unit 117, A/D 115 and beamformer 116 of Figure 1, which are described on page 4, line 33 through page 7, line 15, correspond to the transmit and receive beamformer for transmitting ultrasonic energy into a subject during an imaging session. A filter operatively connected to the receive beamformer is shown in Figure 1 as the digital filter 118, which is connected to the output of the beamformer 116. As explained on page 9, lines 13 through 21 and elsewhere in the specification, the digital filter 118 is operative to filter from the echo information a plurality of information signals associated with a harmonic frequency band. These harmonics are harmonics of the fundamental frequency band transmitted into the subject, as explained on page 1, line 25 through page 2, line 7. As explained on page 9, line 22 through page 10, line 3, the three-dimensional reconstruction of the subject represented by the image is responsive to the information signals.

Count 3

Page 9, line 22 through page 10, line 3 indicates that the ultrasound imaging system can produce a three dimensional reconstruction. The steps of transmitting ultrasonic energy at a first frequency band into a subject during an imaging session is described on page 5, lines 1-7 and elsewhere throughout the specification. The step of imaging using tissue harmonics in which no contrast agents are present is described, *inter alia*, at page 1, line 33 through page 2, and line 7 and page 6, line 33 through page 7, line 12. The step of receiving ultrasonic echo information associated with the transmitted ultrasonic energy is described on page 6, lines 3-9 and elsewhere throughout the specification. Obtaining from the echo information that is output by the digital filter 118 a plurality of detected Doppler information signals associated with a second frequency band is described on page 9, lines 22-25 with respect to the Doppler processor 130 (Figure 1). Page 9, lines 3-17 indicates that the second frequency band is a harmonic band of the first frequency band. Page 9, line 22 through page 10, line 3 indicates that a three-dimensional reconstruction is formed in response to the information signals. Finally, the step of displaying a Doppler image responsive to the three dimensional reconstruction selected from the group of: velocity, variance, energy and combinations thereof, is described 9, lines 22-33, which indicates that the Doppler Processor 130 produces velocity and power Doppler signals.

Count 4

A method for producing a three dimensional reconstruction with an ultrasound system is described on page 9, line 22 through page 10, line 3. The step of transmitting ultrasonic energy at a first frequency band into a subject during an imaging session is described on page 5, lines 1-7 and elsewhere throughout the specification. The step of imaging using tissue harmonics in which no contrast agents are present is described, *inter alia*, at page 1, line 33 through page 2, and line 7 and on page 6, line 33 through page 7, line 12. The step of receiving ultrasonic echo information associated with the transmitted ultrasonic energy is described on page 6, lines 3-9 and elsewhere throughout the specification. Transmitting ultrasonic energy characterized by a peak power level near a first frequency band is described on page 5, line 8 through page 6, line 2 and elsewhere in the specification, and is shown in Figures 4 and 5. The step of receiving ultrasonic echo information associated with the transmitted ultrasonic energy is described on page 6, lines 3-9 and elsewhere throughout the specification. Obtaining from the echo information that is output by the digital filter 118 a plurality of detected Doppler information signals associated with a second frequency band is described on page 9, lines 22-25 with respect to the Doppler processor 130 (Figure 1). Page 9, lines 3-17 indicates that second frequency band is a harmonic band of the first frequency band. Obtaining information signals associated with the first frequency band, *i.e.*, the fundamental frequency band, in addition to information signals associated with the second (harmonic) frequency band, is shown in Figure 14 in conjunction with Figure 10, which are described on page 15, line 21 through page 26, line 12. Page 9, line 22 through page 10, line 3 describes the step of forming a three-dimensional reconstruction in response to the information signals. Finally, the step of displaying a composite image responsive to the three dimensional reconstruction comprising a spatially distinct near-field region emphasizing information signals in the second (harmonic) frequency band and a far-field region emphasizing information signals in the first (fundamental) frequency band is described with respect to the embodiment of Figure 14 on page 25, line 24 through page 26, line 12.

Count 5

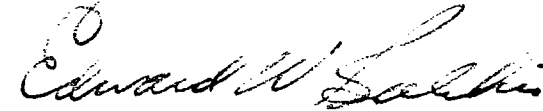
A method for producing a three dimensional reconstruction with an ultrasound system is described on page 9, line 22 through page 10, line 3. The step of transmitting ultrasonic energy at a first frequency band into a subject during an imaging session is described on page 5, lines 1-7 and elsewhere throughout the specification. The step of

imaging using tissue harmonics in which no contrast agents are present is described, *inter alia*, at page 1, line 33 through page 2, and line 7 and page 6, line 33 through page 7, line 12. The step of receiving ultrasonic echo information associated with the transmitted ultrasonic energy is described on page 6, lines 3-9 and elsewhere throughout the specification. The step of obtaining from the echo information a first plurality of information signals associated with the first (fundamental) frequency band and a second plurality of information signals associated with a second (harmonic) frequency band is described in the specification with respect to Figures 10 and 14, such as on page 23, line 29 through page 24, line 16. Compounding, *i.e.*, combining or blending, the first and second plurality of information signals is also described in the specification with respect to Figures 10 and 14, and various compounding techniques are described on page 24, line 21 through page 26, line 12. Finally, the step of forming the three-dimensional reconstruction as a function of the compounded information signals is described in the specification on page 9, line 22 through page 10, line 3 and on page 23, line 29 through page 26, line 17.

Under 35 U.S.C § 135(b), a claim that is substantially the same as a claim in an existing patent must be presented within one year from the issue date of the patent. U. S. Patent No. 5,928,151 issued on July 27, 1999. Since this divisional application and preliminary amendment containing claims 102-106 are being filed on or before July 27, 2000, the requirements of 35 U.S.C § 135(b) are met.

Respectfully submitted,

DORSEY & WHITNEY LLP



Edward W. Bulchis
Registration No. 26,847

EWB:cff

Enclosures:

Postcard

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(206) 903-8800
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